Claims

Having thus described the invention, what is claimed as new and desired to be secured by Letters Patent is:

1. In combination with a mounting arm of a soil leveling attachment:

a rearwardly extending carrier arm having proximal and distal end portions, said distal end portion being provided with a leveling device for engagement with the ground,

a pivot mounting said proximal end portion of said carrier arm to said mounting arm for upward and downward pivotal movement of the carrier arm,

a selectively operable connecting link on said mounting arm having a fixed setting and a released, floating setting in which the connecting link is movable,

a spring member acting between said connecting link and said carrier arm to bias said carrier arm toward a lower position when said connecting link is at its fixed setting, whereby said spring member applies a downward force on said leveling device,

means for releasing said connecting link from said fixed setting to permit said connecting link to float in response to upward movement of said carrier arm, whereby said leveling device can move across the ground free of downward force from said spring member.

2. The apparatus of claim 1 wherein:

said connecting link is mounted to said carrier arm and said spring member acts between said connecting link and said mounting arm to bias said carrier arm toward a lower position when said connecting link is at its fixed setting.

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3. The apparatus of claim 1 wherein:

said spring member is biased toward an extended position and movable between the extended position and a compressed position.

4. The apparatus of claim 1 wherein:

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said connecting link has a pivoting end portion pivotably mounted to said mounting arm and a connecting end portion engaging said spring member, said means for releasing said connecting link from said fixed setting including a removable pin for securing said connecting link against pivoting movement relative to said mounting arm.

5. The apparatus of claim 1 wherein:

said spring member is biased toward an extended position and movable between the extended position and a compressed position, and

said connecting link has a pivoting end portion pivotably mounted to said mounting arm and a connecting end portion engaging said spring member, said means for releasing said connecting link from said fixed setting including a removable pin for securing said connecting link against pivoting movement relative to said mounting arm.

6. The apparatus of claim 1 wherein:

said spring member is a spring assembly including a rod having a proximal end and a distal end, a fixed trunnion fitting at the proximal end of said rod and a sliding trunnion fitting at the distal end of said rod, a spring disposed between said fixed and sliding trunnion fittings biasing said sliding trunnion fitting away from said fixed trunnion fitting and a head at the distal end of the rod to retain said sliding trunnion fitting, said sliding trunnion fitting pivotably mounted to said carrier arm by lugs, and,

said connecting link has a pivoting end portion pivotably mounted to said mounting arm and a connecting end portion engaging said spring member, said means for releasing said connecting link from said fixed setting including a removable pin for securing said connecting link against pivoting movement relative to said mounting arm.

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7. The apparatus of claim 1 wherein:

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said spring member is a spring assembly including a rod having a proximal end and a distal end, a fixed trunnion fitting at the proximal end of said rod and a sliding trunnion fitting at the distal end of said rod, a spring disposed between said fixed and sliding trunnion fittings biasing said sliding trunnion fitting away from said fixed trunnion fitting and a head at the distal end of the rod to retain said sliding trunnion fitting, said sliding trunnion fitting pivotably mounted to said carrier arm by lugs, said fixed trunnion fitting having a pair of bosses, and,

said connecting link is a pivoting link including a pair of links each having a pivoting end portion pivotably mounted to said mounting arm, a connecting end portion for receiving one of said bosses of said fixed trunnion fitting and a removable pin for securing said links against pivoting movement relative to said mounting arm, whereby said means for releasing said connecting link from said fixed setting is the removal of said removable pin.

8. In combination with a mounting arm of a soil leveling attachment:

a rearwardly extending carrier arm having proximal and distal end portions, said distal end portion being provided with a leveling device for engagement with the ground,

a pivot mounting said proximal end portion of said carrier arm to said mounting arm for upward and downward pivotal movement of the carrier arm as the soil leveling device travels over the ground,

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a selectively operable connecting link on said mounting arm having a fixed setting and a released, floating setting in which the connecting link may pivot, said connecting link having a pivoting end portion pivotably mounted to said mounting arm and a connecting end portion,

a spring member biased toward an extended position and movable between the extended position and a compressed position acting between said connecting end portion of said connecting link and said carrier arm to bias said carrier arm toward a lower position when said connecting link is in its fixed setting, whereby said spring member applies a downward force on said leveling device,

means for releasing said connecting link from said fixed setting including a removable pin for securing said connecting link against pivoting movement relative to said mounting arm such that when said removable pin is removed, said connecting link floats in response to upward movement of said carrier arm, whereby said leveling device can travel across the ground free of downward force from said spring member.

9. The apparatus of claim 8 wherein:

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said spring member is a spring assembly including a rod having a proximal end and a distal end, a fixed trunnion fitting at the proximal end of said rod and a sliding trunnion fitting at the distal end of said rod for sliding between an extended position and a compressed position, a spring disposed between said fixed and sliding trunnion fittings biasing said sliding trunnion fitting away from said fixed trunnion fitting in said extended position and a head at the distal end of the rod to retain said sliding trunnion fitting in said extended position, said sliding trunnion fitting pivotably mounted to said carrier arm by lugs, said fixed trunnion fitting having a pair of bosses, and,

said connecting link includes a pair of links each having a pivoting end portion pivotably mounted to said mounting arm, a connecting end portion for receiving one of said bosses of said fixed trunnion.

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10. The apparatus of claim 8 wherein:

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said spring member is a spring assembly including a rod having a proximal end and a distal end, a fixed trunnion fitting at the proximal end of said rod and a sliding trunnion fitting at the distal end of said rod for sliding between an extended position and a compressed position, a spring disposed between said fixed and sliding trunnion fittings biasing said sliding trunnion fitting away from said fixed trunnion fitting in said extended position and a head at the distal end of the rod to retain said sliding trunnion fitting in said extended position, said sliding trunnion fitting pivotably mounted to said carrier arm by lugs, said fixed trunnion fitting having a pair of bosses, and,

said connecting link is a pivoting link including a pair of links each having a pivoting end portion pivotably mounted to said mounting arm, a connecting end portion for receiving one of said bosses of said fixed trunnion fitting, said connecting link including a removable pin for securing said pair of links against pivoting movement relative to said mounting arm.